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us-10-003-356-8

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5.1.6
Compugen Ltd
GenCore version (c) 1993 - 2005
          Copyright
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using sw model - protein search, OM protein

77 Seconds ; Search time 168.8' (without alignments) 2810.909 Million cell 2005, 16:12:05 February 16, Run on:

updates/sec

US-10-003-356-8 4904 score: Title: Perfect

PLKLO 1 MFERRKEQDEGPGIHEFLAF......TVSTVLDDRVLIYMC Sequence:

Scoring table:

Gapext BLOSUM62 Gapop 10.0 ,

L) Ö

1612378 seqs, 512079187 residues Searched:

1612378 hits satisfying chosen parameters of Total number

sed sed Minimum DB Maximum DB

length: 0 length: 2000000000 Maximum

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

UniProt\_03:\*
1: uniprot\_sprot:\*
2: uniprot\_trembl:\*

No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, derived by analysis of the total score distribution. No. score gand is Pred.

## SUMMARIES

	Description	0410 mus n	Q8ngv9 homo sapien	4 mus n	Q8tdu1 homo sapien	70413 rattu	538	80	Ø	4844	04 squa]	41180	96 mus n	l6 sparus	fl salmo	44	73635 fugu rubri	73639 fugu r	<b>xaf2 salmo sala</b>	3553 carassius	ω	3637 fugu rubri	6 fugu rubri	6unx3 ictalurus	3552 carassius	7364	mus muscu	O70409 mus musculu	Q8k4z6 mus musculu	bl rattu	8nhz9 homo sapi	Q6tac4 mus musculu
	ID		Q8NGV9	Q8C0V4	QSTDU1	070413	CASR_BOVIN	OBCOME	Q80ZA8	CASR RAT	Q8J104	CASR_HUMAN	CASR MOUSE	Q90WI6	Q6XAF1	Q6XAF3	$\sim$	073639	fr.	ın	073638	363	073636	6UNX	093552	073640	8CDP	040	Q8K4Z6	Q70VB1	Z	Q6TAC4
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8ngu8 homo s	9pw88 carassi	6jk43 homo s	80z09 mus mus	O35269 rattus norv	99pgs mus	9251	9231	920re rattus n	767k	<b>6</b> 466	3526	7041	ທ	
60	S	3	80	035269	9	92	92	92	76	9	035268	7041	Q6JK44	
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7	<b>~</b>	S	9	779	4	4	4	4	Ф	4	9	$\omega$	S	
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32	33	34	32	36	37	38	39	40	41	42	43	44	45	

## ALIGNMENTS

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                                                                                                                                                                                                                                                                                                                                                          MEDLINE=97436753; PubMed=9292726; DOI=10.1016/S0896-6273(00)80946-0; Ryba N.J., Tirindelli R.; "A new multigene family of putative pheromone receptors."; Neuron 19:371-379(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :
                                                                                                   01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Putative pheromone receptor V2R2.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Musinae; Musi
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TISSUE=Vomeronasal neurons;
Ryba N.J.P., Tirindelli R.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF053986; AAC08413.1; -.
HSSP; P23385; 1EWK.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0008067; F:metabotropic glutamate, GABA-B-like recept GO; GO:0004872; F:receptor activity; IEA.
InterPro; IPR0010828; ANF receptor.
InterPro; IPR001068; Ca Sens receptor.
InterPro; IPR011500; NCD3G GPCR.
R Fam; PF001094; ANF receptor; 1.
Pfam; PF01094; ANF receptor; 1.
R Pfam; PF07562; NCD3G; 1.
R PRINTS; PR00248; GPCRMGR.
R PRINTS; PR00248; GPCRMGR.
R PROSITE; PS50259; G_PROTEIN_RECEP_F3_4; 1.
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Pred. No. 2e-270;
2; Mismatches 87;
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Best Local Similarity 82.6
Matches 747; Conservative
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                                                                                                                                                                                                                               Score 2980; DB 2;
Pred. No. 2.7e-201;
34; Mismatches 88;
                                                                                                                                                                                                   04D56AD8917BDA1F
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ EMBL; AB065664; BAC05890.1; -. GO; GO:0016021; C:integral to membrane; IEA. GO; GO:0008067; F:metabotropic glutamate, GABJ GO; GO:0004872; F:receptor activity; IEA. InterPro; IPR001828; ANF receptor. InterPro; IPR000337; GPCR_Mgr. Pfam; PF00003; 7tm_3; 1. Pfam; PF01094; ANF receptor; 1. PRINTS; PR00248; GPCRMGR. PROSITE; PS50259; GPROTEIN_RECEP_F3_4; 1. Receptor; Transmembrane. SEQUENCE 755 AA; 83791 MW; 04D56AD8917BDA:
      the EMBL/GenBank/DDBJ
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Q8NGV9;
Q8NGV9;
Q1-OCT-2002 (TrEMBLrel. 22, Created)
O1-OCT-2002 (TrEMBLrel. 22, Last sequence update)
O1-OCT-2003 (TrEMBLrel. 24, Last annotation update)
O1-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Seven transmembrane helix receptor.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
NCBI_TaxID=9606;
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Sato T., Okouchi I., Arita M., Futami I
S., Aburatani H., Asai K., Akiyama Y.;
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I., Itoh M.,
Harada A.,
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STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;
Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Konno H., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Fujiwake S., Inoue K., Togawa Y., Izawa M., Ohara B., Watahiki M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Yoneda Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; Sequencing pipeline with 384 multicapillary sequencer.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enri
library, clone:4930518C23 product:weakly similar to PUTATIV
RECEPTOR V2R2, full insert sequence.
Name=4930518C23Rik;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOI=10.1016/S0076-6879(9
                  a full-length mouse cDNA collecti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
"Normalization and subtraction of cap-trapper-selected cDN
prepare full-length cDNA libraries for rapid discovery of
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                                                                                                          CDNA cloning.";
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STRAIN=C57BL/6J; TISSUE=Testis;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group
"Analysis of the mouse transcriptome based
60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=99279253; PubMed=10349636;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cMeth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=C57BL/6J; TISSUE=Testis; MEDLINE=21085660; PubMed=11217851; RIKEN FANTOM Consortium; "Functional annotation of a full-le Nature 409:685-690(2001).
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STRAIN=C57BL/6J; TISSUE=Testis;
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Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                     PRELIMINARY;
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Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci P., Fukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W., Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T., Hori F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S., Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y., Saitoh H., Saitoh H., Sakai C., Sakai K., Sakazume N., Sano H., Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T., Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.; Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

R MGD; MGI:2441682; 4930518C23Rik.

GO; GO:0004930; F:G-protein coupled receptor activity; TAS.

GO; GO:0004930; F:G-protein coupled receptor protein signalin. ..; TAS InterPro; IPR001068; Ca_Bens_receptor.

R InterPro; IPR011828; ANF_receptor.

R InterPro; IPR0101828; Mgr.

InterPro; IPR0101828; Mgr.

InterPro; IPR01030; GPCR Mgr.

InterPro; IPR01030; GPCR Mgr.
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Pfam; PF07562; NCD3G; 1.
PRINTS; PR00592; CASENSINGR.
PRINTS; PR00248; GPCRMGR.
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TISSUE=Vomeronasal neurons;
MEDLINE=97436753; PubMed=9292726; DOI=10.1016/S0896-6273(00)
                                                                                                                                                                                       GABA-B-like recept
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                                                                                                                                  Takeda S., Kadowaki S., Haga T., Takaesu H., Mitaku S.;
Takeda S., Kadowaki S., Haga T., Takaesu H., Mitaku S.;
Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AB083610; BAB89323.1; -.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0008067; F:metabotropic glutamate, GABA-B-like re
GO; GO:0004872; F:receptor activity; IEA.
InterPro; IPR000337; GPCR_Mgr.
Pfam; PF00003; 7tm_3; 1.
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O70413;
O70413;
O1-AUG-1998 (TrEMBLrel. 07, Last sequence update)
O1-AUG-1998 (TrEMBLrel. 24, Last annotation update)
Putative pheromone receptor V2R2 (Fragment).
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eute
                                                                                                                                                                                                                                                         9BFC4F8EFA873133 CRC64;
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                                                                                               Vertebrata; |
                                     (TrEMBLrel. 21, Created)
(TrEMBLrel. 21, Last sequence update)
(TrEMBLrel. 24, Last annotation update)
protein coupled receptor.
                                                                                                                                                                                                                                                                           Score 1749; DB 2;
Pred. No. 6.5e-115;
0; Mismatches 3;
                    365 AA
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Catarrhini;
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                                                                                                                                                                                                                         PRO0248; GPCRMGR.
                   PRT;
                                                                                    Homo sapiens (Human).
Eukaryota, Metazoa, Chordata,
Mammalia, Eutheria, Primates,
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illarity 99.1%;
Conservative (
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                   PRELIMINARY;
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341; Conser
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                Q8TDU1;
Q8TDU1;
01-JUN-2002
01-JUN-2002
                                                                             Name=GPCR;
                                                                                                                                                                                                                                               Receptor.
SEQUENCE
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Best Local S
Matches 341
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P35384;
01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Extracellular calcium-sensing receptor precursor (CaSR) (Parathyr Cell calcium-sensing receptor).
Name=CASR; Synonyms=GPRC2A, PCAR1;
Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
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                                              SEQUENCE FROM N.A.

TISSUE=Vomeronagal neurons;
Ryba N.J.P., Tirindelli R.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ da EMBL; AF053989; AAC08416.1; -.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0008067; F:metabotropic glutamate, GABA-B GO; GO:0004872; F:receptor activity; IEA.
InterPro; IPR000337; GPCR Mgr.
InterPro; IPR011500; NCD3G_GPCR.
Pfam; PF00003; 7tm 3; 1.
Pfam; PF00003; 7tm 3; 1.
PRINTS; PR00248; GPCRMGR.
PROSITE; PS50259; G_PROTEIN_RECEP_F3_4; 1.
Receptor.
NON TER

1 1
SEQUENCE 428 AA; 47708 MW; EFB69A78F750E202
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Pred. No. 2.9e-113
40; Mismatches 61
                  pheromone
                   putative
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N.J., Tirindelli R.; sw multigene family of on 19:371-379(1997).
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                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                         messenger system.
SUBCELLULAR LOCATION: Integral membrane protein.
SIMILARITY: Belongs to the G-protein coupled receptor
                          SEQUENCE FROM N.A.

TISSUE=Parathyroid;

MEDLINE=94077182; PubMed=8255296; DOI=10.1038/366575a0;

Brown E.M., Gamba G., Riccardi D., Lombardi M., Butters I Sun A., Hediger M.A., Lytton J., Hebert S.C.;

"Cloning and characterization of an extracellular Ca(2+) receptor from bovine parathyroid.";

Nature 366:575-580(1993).
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Extracellular (Potential).

1 (Potential).

2 (Potential).

Extracellular (Potential).

3 (Potential).

Cytoplasmic (Potential).

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Extracellular (Potential).

Extracellular (Potential).

Cytoplasmic (Potential).

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Extracellular (Potential).
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No. 1.7e-110;
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PIR; S40476; S40476.

HSSP; P23385; 1EWT.

InterPro; IPR001828; ANF receptor.

InterPro; IPR000337; GPCR Mgr.

Pfam; PF01094; ANF receptor;

PRINTS; PR00248; GPCRMGR.

PROSITE; PS00980; GPROTEIN RECEP F3 1;

PROSITE; PS00981; GPROTEIN RECEP F3 2;

PROSITE; PS00981; GPROTEIN RECEP F3 4;

PROSITE; PS00981; GPROTEIN RECEP F3 5;

PROSITE F3 500981;

PROSITE 
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QBCOM6;
QBCOM6;
QBCOM6;
O1-MAR-2003 (TrEMBLrel. 23, Last sequence update)
O1-MAR-2003 (TrEMBLrel. 24, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
library, clone:4933425M15 product:similar to PUTATIVE PHEROMONE
RECEPTOR V2R2, full insert sequence.
Name=4933425M15Rik;
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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578

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638

628

698

688

810

801

173;

Conservative

350;

Matches

Similarity

Local

Best

Gaps

45;

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Adachi J., Aizawa K., Akimura T., Arakawa T., Bono H., Carninci Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W., Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T., Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T., Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koy Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M., Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y., Saito R., Saitoh H., Sakai C., Sakai K., Sakazume N., Sasaki Y., Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T. Togawa A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y., Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AK030224; BAC26854.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

STRAIN=C57BL/6J; TISSUE=Testis;

MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;

A Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci S., Itoh M., Akiyama J., Nishi K., Kitsunai T., Tashiro H., Itoh M. Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Sami N., Ishii Y., Nakamura S., Ikegami T., Kashiwagi F. Fujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watahiki N., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; "RIKEN integrated sequence analysis (RISA) system-384-format Bequencing pipeline with 384 multicapillary sequencer.";

Genome Res. 10:1757-1771(2000).
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MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K.
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
"Normalization and subtraction of cap-trapper-selected cDNAs prepare full-length cDNA libraries for rapid discovery of negenome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                     a full-length mouse cDNA collectio
    Sciurognathi; Muridae; Murinae
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the RIKEN Genome Exploration Research Group Phase I & II "Analysis of the mouse transcriptome based on functional 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
"Functional annotation of a full-length mouse cDNA collenature 409:685-690(2001).
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protein si
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GO:0005615, C:extracellular space, TAS.
GO:0004930, F:G-protein coupled receptor
GO:0007186, P:G-protein coupled receptor
                                                                                                                                                                      cloning.";
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InterPro; IPR000068; Ca sens receptor.
InterPro; IPR000337; GPCR Mgr.
Pfam; PF01094; ANF receptor; 1.
PRINTS; PR00592; CASENSINGR.
                                                                                         STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=99279253; PubMed=10349636;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA c
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Testis;
Rodentia;
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 Eutheria;
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Pfam; PF01094; ANI
PRINTS; PR00592; (
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                       NCBI_TaxID=10090;
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Sciurognathi; Muridae; Murinae; Rattus
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QAVYLLAHAIDLFSQA-DIREEYRENAVLENKPNFESVKVCY
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(TrEMBLrel. 24, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
                                                                     7
                                                                  Score 1693.5; DB 2
Pred. No. 7.7e-111;
11; Mismatches 78;
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STRAIN=Wistar; TISSUE=Dorsal root ganglion;
Bukoski R., Bian K., Wang Y.;
Submitted (JAN-2003) to the EMBL/GenBank/DDBJ dalembl; AY214122; AAO59490.1; -.
HSSP; P23385; 1EWK.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0008067; F:metabotropic glutamate, GABA-B
GO; GO:0004872; F:receptor activity; IEA.
                                     75AA1255B45A4BAF
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IPR000068; Ca sens receptor
IPR000337; GPCR Mgr.
IPR011500; NCD3G GPCR.
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Rattus norvegicus (Rat).

Eukaryota; Metazoa; Chordata; Cammalia; Eutheria; Rodentia; Schords June 10116;
                                                                                                       51;
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Pfam; PF01094; ANF receptor; 1 Pfam; PF07562; NCD3G; 1.
                                     54264 MW;
                                                                     Query Match
Best Local Similarity 70.6%;
Matches 326; Conservative
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PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G_PROTEIN
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                                  476 AA;
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InterPro;
PRINTS; P
Receptor.
SEQUENCE
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VSKALEATLSF
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PS00981; G PROTEIN RECEP F3 3;
PS50259; G PROTEIN RECEP F3 4;
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TISSUE=Kidney;

MEDLINE=22103704; PubMed=12093923; DOI=10.1073/pnas.152294399;

MEDLINE=22103704; PubMed=12093923; DOI=10.1073/pnas.152294399;

Nearing J., Betka M., Quinn S., Hentschel H., Elger M., Baum M.,

Bai M., Chattopadyhay N., Brown E.M., Hebert S.C., Harris H.W.;

"Polyvalent cation receptor proteins (CaRs) are salinity sensors fish.";
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Squaloidei;
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Squaliformes;
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Calcium polyvalent cation receptor/salinity sensing
Squalus acanthias (Spiny dogfish).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Elasmobranchii; Squalea; Hypnosqualea; Squaliformes;
Squalidae; Squalus.
NCBI_TaxID=7797;
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EMBL; AF406649; AAM77700.1; ...

HSSP; P23385; 11SS.

GO; GO:0016020; C:membrane; IEA.

GO; GO:0008067; F:metabotropic glutamate, GABA-B-li

GO; GO:0004872; F:receptor activity; IEA.

InterPro; IPR001828; ANF_receptor.

InterPro; IPR001828; ANF_receptor.

InterPro; IPR0010837; GPCR Mgr.

InterPro; IPR011500; NCD3G_GPCR.

Pfam; PF01094; ANF_receptor; 1.

Pfam; PF01094; ANF_receptor; 1.

Pfam; PF07562; NCD3G; 1.

PRINTS; PR00592; CASENSINGR.

PROSITE; PS00999; G_PROTEIN_RECEP_F3_1; 1.

PROSITE; PS00991; G_PROTEIN_RECEP_F3_2; UNKNOWN_1.

PROSITE; PS00991; G_PROTEIN_RECEP_F3_3; 1.

PROSITE; PS00991; G_PROTEIN_RECEP_F3_4; 1.
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G PROTEIN RECEP F3 2; UNKNOWN 1
G PROTEIN RECEP F3 3; 1.
G PROTEIN RECEP F3 4; 1.
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| 346; Conservative 176; Mismatches 3
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TISSUE=Parathyroid;
MEDLINE=95279439; PubMed=7759551; DOI=10.1074/jbc.270.21.12
Garrett J.E., Capuano I.V., Hammerland L.G., Hung B.C., Bro
                -ANGSCADIKKVEAWQVLNHLLHLKFTNSMGEQVDFDDQGDLK-GNYTII
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        I AADDDYGKYGVKTFKEKMESANLCVAFSETI PKVYSNEKMOKAVKAVKT
                                          SDIDLSLFVLEMIHHNITDRTWIATBAWITSALIAKPEYFPYFGGTIGFA
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Catarrhini; Hominidae; Homo
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Name=CASR; Synonyms=GPRC2A, PCAR1; Homo sapiens (Hiiman)
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Butheria, Primates,
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Eukaryota; Metazoa;
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NCBI_TaxID=9606;
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thyroid VARIANT ADH ALA-127. MEDLINE=95179179; PubMed=7874174; Pollak M.R., Brown B.M., Estep H.L., McLaine P.N., Kifor O., Park J., Hebert S.C., Seidman C.B., Seidman J.G.; "Autosomal dominant hypocalcaemia caused by a Ca(2+)-sensing receptor SEQUENCE OF 1-61 FROM N.A., AND VARIANT FHH ALA-39.
MEDLINE=95403641; PubMed=7673400; DOI=10.1210/jc.80.9.2594;
Aida K., Koishi S., Inoue M., Nakazato M., Tawata M., Onaya T.;
"Familial hypocalciuric hypercalcemia associated with mutation in the human Ca(2+)-sensing receptor gene."; VARIANTS FHH GLN-185; LYS-297 AND TRP-795.

MEDLINE=94094324; PubMed=7916660;

Pollak M.R., Brown B.M., Chou Y.-H.W., Hebert S.C., Marx S.J.,
Steinmann B., Levi T., Seidman C.E., Seidman J.G.;
"Mutations in the human Ca(2+)-sensing receptor gene cause familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism.

Cell 75:1297-1303(1993). in familial benign hypercalcemia MEDLINE=96193893; PubMed=8613532; Bikle D.D., Ratnam A., Mauro T., Harris J., Pillai S.; "Changes in calcium responsiveness and handling during keratinocyte differentiation. Potential role of the calcium receptor."; J. Clin. Invest. 97:1085-1093(1996). ; ; "Expression of a calcium-sensing receptor in a human medullary thy carcinoma cell line and its contribution to calcitonin secretion." Endocrinology 137:3842-3848(1996). of human parathyroid G.G MEDLINE=96343808; PubMed=8756555; DOI=10.1210/en.137.9.3842; Preichel M., Zink-Lorenz A., Holloschi A., Hafner M., Plockerzi gene that cause Besser G.M., Chew S.L., Paterson C.R., Whyte M.P. VARIANTS FIH THR-116; HIS-681 AND SER-806, AND VARIANT SER-851 MEDLINE=96311554; PubMed=8733126; DOI=10.1093/hmg/5.5.601; Baron J., Winer K.K., Yanovski J.A., Cunningham A.W., Laue L., Zimmerman D., Cutler G.B. Jr.; CDNA Arnqvist H., Seidman MET-138; GLU-143 AND GLN-227 laya T.; Ca(2+)-sensing receptor WARIANTS FHH MET-62; CYS-66; MET-138; GLU-143 AND GLN MEDLINE=95243222; PubMed=7726161; Chou Y.-H.W., Pollak M.R., Brandi M.L., Toss G., Arnç Atkinson A.B., Papapoulos S.E., Marx S., Brown B.M., Seidman C.E.; "Mutations in the human Ca(2+)-sensing-receptor gene familial hypocalciuric hypercalcemia."; Am. J. Hum. Genet. 56:1075-1079(1995). Biochem. Biophys. Res. Commun. 214:524-529(1995) 80:2594-2598 (1995) expression MEDLINE=95408281; PubMed=7677761; Aida K., Koishi S., Tawata M., Onaya "Molecular cloning of a putative Ca(2 MEDLINE=96292293; PubMed=8675635;
Pearce S.H.S., Trump D., Wooding C.,
Grant D.B., Heath D.A., Hughes I.A.,
Thakker R.V.; Hebert S.C., Nemeth B.F., Fuller F.; "Molecular cloning and functional excalcium receptor cDNAB."; J. Biol. Chem. 270:12919-12925(1995) "Calcium-sensing receptor mutations and neonatal hyperparathyroidism."; J. Clin. Invest. 96:2683-2692(1995). VARIANTS NSHPT LEU-227 AND TYR-582. SEQUENCE OF 643-908 FROM N.A. "Autosomal dominant hypocal gene mutation."; Nat. Genet. 8:303-307(1994) Metab. Clin. Endocrinol. SEQUENCE FROM N.A. FROM N.A.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DISEASE: Defects in CASR are the cause of neonatal severe primary hyperparathyroidism (NSHPT) [MIM:239200]; in which the receptor has reduced activity. NSHPT is a rare autosomal recessive lifethreatening disorder characterized by very high serum calcium concentrations, skeletal demineralization, and parathyroid hyperplasia. In some instances NSHPT has been demonstrated to be the homozygous form of FHH.

-! DISEASE: Defects in CASR are the cause of autosomal dominant hypocalcemia (ADH) [MIM:601198]; in which the receptor is activated at subnormal Ca(2+) levels.
-! DISEASE: Defects in CASR are the cause of autosomal dominant hypoparathyroidism (FIH) [MIM:146200]. FIH is characterized by hypocalcemia and hyperphosphatemia due to inadequate secretion of parathyroid hormone. Symptoms are seizures, tetany and cramps.
-! SIMILARITY: Belongs to the G-protein coupled receptor 3 family.
                                                                                                                                                                                                                             associated
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IsoId=P41180-2; Sequence=VSP 002035;
TISSUE SPECIFICITY: Found in kidney, but not in brain, lung,
liver, heart, skeletal muscle, or placenta.
DISEASE: Defects in CASR are the cause of familial hypocalciuric
hypercalcemia, type 1 (FHH) [MIM:145980]; in which the receptor
has reduced activity. FHH is characterized by altered calcium
homeostasis. Affected individuals exhibit mild or modest
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MEDLINE=21603857; PubMed=11762699; DOI=10.1385/ENDO:15:3:277; Nakayama T., Minato M., Nakagawa M., Soma M., Tobe H., Aoi N., Kosuge K., Kato M., Ozawa Y., Kanmatsuse K., Kokubun S.; Kosuge K., Kokubun S.; Namatsuse K., Kokubun S.; Namatsuse K., Kokubun S.; Namatsuse M., Ozawa Y., Kanmatsuse K., Kokubun S.; Namatsuse M., Sato M., Ozawa Y., Kanmatsuse K., Kokubun S.; Namatsuse IS:277-282(2001).

-I- FUNCTION: Senses changes in the extracellular concentratical calcium ions. The activity of this receptor is mediated kanges in that activates a phosphatidylinositol-calcium second
                                                                                                                                                                                                                                                                                                                                            MEDLINE=99415602; PubMed=10487661; DOI=10.1210/jc.84.9.3036; Stock J.L., Brown R.S., Baron J., Coderre J.A., Mancilla E., De Luca F., Ray K., Mericq M.V.; "Autosomal dominant hypoparathyroidism associated with short and premature osteoarthritis."; J. Clin. Endocrinol. Metab. 84:3036-3040(1999).
"Mutations in the Ca(2+)-sensing receptor gene cause autosom dominant and sporadic hypoparathyroidism.";
Hum. Mol. Genet. 5:601-606(1996).
                                                                                                                                                                        Stuckey B.G.A., Gutteridge D.H., Laing N.G., Pull
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sior send an email to license@isb-sib.ch).
                                                                                                                       MEDLINE=97442275; PubMed=9298824;
DOI=10.1002/(SICI)1098-1004(1997)10:3<233::AID-HUMU9>3.3.CO
                                                                                                                                                                                                                                  gene
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                                                                                                                                                                                                                             Ca2+-sensing receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                messenger system.
SUBCELLULAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Event=Alternative splicing; Named isoforms=2;
                                                                                                                                                                                                                                              familial hypocalciuric hypercalcemia."; Mutat. 10:233-235(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IsoId=P41180-1; Sequence=Displayed;
                                                                                                                                                                                                                     "A novel mutation (L174R) in the
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Ratajczak T.;
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MBL; U20760; AAA86504.1; -.
MBL; U20760; AAA86504.1; -.
MBL; S83176; AAB46873.1; -.
MBL; S83176; AAB46873.1; -.
MBL; S68032; AAB29413.2; ALT_SEQ.
MBL; S68032; AAB29413.2; ALT_SEQ.
MBL; S68036; AAB29415.1; -.
MBL; S68036; AAB29415.1; -.
SAB175; AAD14370.1; -.
SAB175; AAD14370.1; -.
SAB175; AAD14370.1; -.
MIM; 601199; -.
MIM; 601199; -.
MIM; 145980; -.
MIM; 14500; -
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79; Mismatches 333;
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Pfam; PF00003; 7tm_3; 1.
Pfam; PF01094; ANF_receptor; 1.
PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G_PROTEIN_RECEP_F3_1; PROSITE; PS00980; G_PROTEIN_RECEP_F3_2; PROSITE; PS00981; G_PROTEIN_RECEP_F3_3;
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Local Similarity 38.0%;
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MEDLINE=20092890; PubMed=10625662; DOI=10.1074/jbc.275.2.11
MEDLINE=20092890; PubMed=10625662; DOI=10.1074/jbc.275.2.11
AEDLINE=20092890; PubMed=10625662; DOI=10.1074/jbc.275.2.11
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STRAIN=Black Swiss X 129/SvJ; TISSUE=Kidney;
MEDLINE=20119279; PubMed=10652312; DOI=10.1074/jbc.275.5.32
Pi M., Garner S.C., Flannery P., Spurney R.F., Quarles L.D.
"Sensing of extracellular cations in CasR-deficient osteobl
Evidence for a novel cation-sensing mechanism.";
J. Biol. Chem. 275:3256-3263 (2000).
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Sciurognathi, Muridae,
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Cell calcium-sensing receptor).
Name=Casr; Synonyms=Gprc2a;
Mus musculus (Mouse).
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ne epidermal differentiation.";
ol. Chem. 275:1183-1190(2000).
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Endocrinology 140:5883-5893(1999)
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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"Expression and signal t
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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G-G
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                                                                                                                                                                              T.X.
                                                                                                                                     SEQUENCE OF 646-799 FROM N.A., AND TISSUE SPECIFICITY.

MEDLINE=97231187; PubMed=9076582;

Quarles L.D., Hartle J.E. II, Siddhanti S.R., Guo R., Hinson T.K.

"A distinct cation-sensing mechanism in MC3T3-E1 osteoblasts
functionally related to the calcium receptor.";

J. Bone Miner. Res. 12:393-402(1997).

-!- FUNCTION: Senses changes in the extracellular concentration c calcium ions. The activity of this receptor is mediated by a protein that activates a phosphatidylinositol-calcium second
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d receptor; Glycoprotein;
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Cytoplasmic (Potential).

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Cytoplasmic (Potential).

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the EMBL/GenBank/DDBJ databases
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SUBCELLULAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS:
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Hildenbrand J., Ammon H.P.T., Wahl M.A.;
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ
[5]
SEQUENCE OF 562-814 FROM N.A.
TISSUB=Kidney;
Moawad T.I., Riccardi D.;
Submitted (MAY-1999) to the EMBL/GenBank/DDR.I
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J. Mol. Endocrinol. 28:111-123(2002).

EMBL; AJ289717; CAC41352.1; -.

HSSP; P23385; 1EWK.

GO; GO:0016020; C:membrane; IEA.

GO; GO:0004872; F:metabotropic glutamate, GA

GO; GO:0004872; F:receptor activity; IEA.

Pfam; PF00003; 7tm 3; 1.

Pfam; PF01094; ANF receptor; 1.

Pfam; PF01562; NCD3G; 1.

PRINTS; PR00592; CASENSINGR.

PROSITE; PS00979; G PROTEIN_RECEP_F3_1; 1.

PROSITE; PS00979; G PROTEIN_RECEP_F3_4; 1.
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequer
01-JUN-2003 (TrEMBLrel. 24, Last annota
Extracellular calcium sensing receptoral Name=casr;
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NENYTSCIAKEI EFLAWTEPFGIALTLFAVLGI FLTAFVLGVFI KFRNTPI VKATNRELS
                                                                                                        FLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRISKS
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei
Sparidae; Sparus.
NCBI_TaxID=8175;
                                                                                                                                                                 :|: ||: ||: ||:| || :| :| :| | :| ||:| ||: | :| |
YLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGISFVLCISCILVKTNRVLLVF
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Clark M.S., Bendell L., Power D.M., Warner S., Elgar G.,
Ingleton P.M.;
"Calcitonin: Characterisation and expression in a Teleost
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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(TrEMBLrel. 19, Last sequence update)
(TrEMBLrel. 24, Last annotation update)
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SEGEYSDHKDASVCTKCPNDSWSNENHTSCFLKRIBFLSWTEPFGIALALCSVLGVFLTA
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ILLGGLFPMHFGVTSKDQDLAARPESTECVRYNFRGFRWLQAMIFAIBEINNSSTLLPNI
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    GABA-B-11ke
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GO; GO:0008067; F:metabotropic glutamate, GP GO:0004872; F:receptor activity; IEA. InterPro; IPR001828; ANF_receptor. InterPro; IPR000068; Ca_Bens_receptor. InterPro; IPR0000337; GPCR_Mgr. InterPro; IPR011500; NCD3G_GPCR. Pfam; PF01094; ANF_receptor; 1. Pfam; PF07562; NCD3G; 1. PRINTS; PR00592; CASENSINGR. PROSITE; PS00979; G_PROTEIN_RECEP_F3_1; 1. PROSITE; PS00979; G_PROTEIN_RECEP_F3_4; 1.
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DFLQEVTPKKSSHNEFVREFWEETFNCYLEDS
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CTFVQVMICVV
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               STAKVIVLYT
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OGXAF1
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OS-JUL-2004 (TrEMBLrel. 27, Created)
OS-JUL-2004 (TrEMBLrel. 27, Last sequence update)
OS-JUL-2004 (TrEMBLrel. 27, Last annotation update)
OS-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Salmo salar (Atlantic salmon).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutelec Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
NCBI_TaxID=8030;
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   PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRI
                                                  IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVK
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Submitted (FEB-2003) to the
EMBL; AY245445; AAP79925.1;
GO; GO:0016020; C:membrane;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Calcium polyvalent cation receptor 2.
Salmo salar (Atlantic salmon).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eukaryotaryoti; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GABA-B-like
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TISSUE=Kidney;

Nearing J.A.; Harris W.;

Submitted (FEB-2003) to the EMBL/GenBank/DDBJ da'

EMBL; AY245443; AAP79923.1; -.

GO; GO:0016020; C:membrane; IEA.

GO; GO:0008067; F:metabotropic glutamate, GABA-E

GO; GO:0004872; F:receptor activity; IEA.

InterPro; IPR001828; ANF_receptor.

InterPro; IPR001068; Ca_Bens_receptor.

InterPro; IPR00137; GPCR_Mgr.

InterPro; IPR011500; NCD3G_GPCR.
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33.2%; Score 1629.5; DB 2
Best Local Similarity 38.3%; Pred. No. 6.4e-106;
Matches 332; Conservative 168; Mismatches 317;
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PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G PROTEIN RECEP F3 1;
PROSITE; PS50259; G PROTEIN RECEP F3 4;
                                                                                                                                                                               846 FKPSRNTIEEV--RCSTAAHSFKVAA
                                                                                                                LRPERNTSEIVCGRVSTTDNCIQLTS
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Pfam; PF01094; ANF receptor; Pfam; PF07562; NCD3G; 1.
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Q6XAF3;
05-JUL-2004
05-JUL-2004
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AYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVTV
                                                            GRFNFRSTNFELVIPINSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIPC
                                                                                                                   YEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIIL
                                                                                                                                                                                                               AVTAVYVIHRHTPLVNASDWOLGFLIOVSLIIMLLSSMLFIDKPHNWSCMAGOVTLALGF
                                                                                                                                                                                                                                                                                                                                 YLILEPPMVYKNMESONTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNY
                                                                                                                                                                                                                                                                                                                                                   SLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--
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